

Application Serial No. 09/332,678
Date May 24, 2004
Reply to Office Action dated March 23, 2004

Page 2 of 12

Listing of the Claims:

Claims 1-19 (Cancelled).

20. (Previously Presented) A method for controlling movement of a moveable member, the method comprising the steps of:

selectively driving the moveable member in either a first direction or in a second direction opposite from the first direction in response to actuation of a reversible electric motor;

generating at least one motion input signal corresponding to motion of the moveable member along a fixed path of travel with at least one sensor positioned between the reversible electric motor and the moveable member, the at least one sensor located on a clutch positioned between the reversible electric motor and the moveable member; and

selectively actuating the reversible electric motor with control means for controlling movement of the moveable member responsive to the at least one input signal in accordance with a control program.

21. (Previously Presented) The method of claim 20 further comprising the step of:

generating at least one position input signal with at least one sensor positioned with respect to the moveable member, the at least one position input signal including an input signal to the control means representative of a first position and a second position of the moveable member.

22. (Previously Presented) The method of claim 20 further comprising the step of:

generating at least one operator input signal with a control signal generator, the at least one operator input signal including an input signal to the control means in response to operator input.

23. (Currently Amended) The method of claim 20 further comprising the step of:

generating said at least one motion input signal with the at least one sensor positioned between the moveable member and the reversible electric motor, the at least one input signal including an input signal to the control means representative

Application Serial No. 09/832,678
Date May 24, 2004
Reply to Office Action dated March 23, 2004

Page 3 of 12

24. (Previously Presented) The method of claim 20 further comprising the step of:

generating at least one position input signal with at least one sensor, the at least one position input signal including an input signal to the control means representative of an actual position of the moveable member along the fixed path of travel between a first position and a second position.

25. (Previously Presented) The method of claim 20 further comprising the step of:

selectively driving a member-engaging member between a first position to engage the moveable member with a frame and a second position where the moveable member is disengaged with respect to the frame, the driving in response to actuation of a second electric motor; and

generating at least one position input signal with at least one sensor positioned with respect to the second electric motor, the at least one position input signal including an input signal to the control means representative of the first position and the second position of the member-engaging member.

26. (Previously Presented) The method of claim 25 further comprising the step of:

generating at least one position input signal with at least one sensor positioned with respect to the frame and the moveable member, the at least one position input signal including an input signal to the control means representative of a moveable member ajar condition.

27. (Previously Presented) The method of claim 20 wherein the control means further comprises the steps of:

receiving the at least one motion input signal with a central processing unit; and

generating at least one output signal in accordance with the control program stored in memory.

28. (Currently Amended) The method of claim 20 wherein the control means further comprises the step of:

controlling a speed of the moveable member while moving between a

Application Serial No. 09/832,678
Date May 24, 2004
Reply to Office Action dated March 23, 2004

Page 4 of 12

from the reversible electric motor, wherein [[a]] the at least one sensor is mounted to a portion of the clutch disposed between the reversible electric motor and the moveable member.

29. (Currently Amended) The method of claim 20 wherein the control means further comprises the step of:

detecting an obstruction along a fixed path of the moveable member while the moveable member is moving between a first position and a second position in response to the at least one motion input signal from the reversible electric motor, wherein [[a]] the at least one sensor is connected to a portion of the clutch disposed between the reversible electric motor and the moveable member.

30. (Currently Amended) A method for controlling movement of a movable closure comprising the steps of:

selectively driving [[a]] the moveable member along a fixed path of travel between first and second end limits of movement either in a first direction or in a second direction opposite from the first direction along the fixed path of travel in response to actuation of a reversible electric motor;

generating at least one input signal corresponding to motion of the moveable member along the fixed path of travel with at least one a sensor positioned between the reversible electric motor and the moveable member;

selectively actuating the reversible electric motor in accordance with a control program of control means responsive to the at least one input signal for controlling movement of the moveable member; and

controlling the moveable member while moving between a first position and a second position along the fixed path in response to [[a]] the sensor mounted to a portion of a clutch positioned between the reversible electric motor and the moveable member, the sensor for sensing movement of the clutch when the moveable member moves along the fixed path.

31. (Previously Presented) The method of claim 30 further comprising the step of:

detecting an obstruction along the fixed path of the moveable member with the control means while the moveable member is moving between the first position and the second position in response to the sensor connected to the portion of

Application Serial No. 09/832,678
Date May 24, 2004
Reply to Office Action dated March 23, 2004

Page 5 of 12

32. (Previously Presented) A method comprising the steps of:
moving a moveable member along a fixed path of travel between a first end limit of movement and a second end limit of movement in response to a reversible translator;

selectively driving the moveable member in a first direction and in a second direction opposite from the first direction along the fixed path of travel with the reversible translator, the translator including a clutch for engaging the translator with the moveable member;

generating at least one movement input signal in response to movement of the moveable member along the fixed path of travel with at least one sensor positioned on the clutch; and

selectively controlling the translator in accordance with a control program with a programmable controller responsive to the at least one movement input signal.

33. (Currently Amended) The method of claim 32 further comprising the steps of:

sensing movement of the clutch in response to movement of the moveable member, where the at least one sensor includes a sensor operably positioned with respect to the clutch, where the translator includes a reversible electric motor and the clutch is positioned between the motor and the moveable member; and

detecting an obstruction along a fixed path of the moveable member while the moveable member is moving between the first and second end limits of movement in response to the at least one sensor operably positioned with respect to the clutch positioned between the reversible electric motor and the moveable member.

34. (Previously Presented) The method of claim 32 further comprising the steps of:

moving a striker between a first position and a second position in response to activation of a second translator, the striker operably engagable with the moveable member when the moveable member is in proximity with the first end limit of movement along the fixed path;

selectively driving the striker between the first position to engage the moveable member with a frame and the second position where the moveable member is disengaged with respect to the frame with the second translator; and

Application Serial No. 09/832,678
Date May 24, 2004
Reply to Office Action dated March 23, 2004

Page 6 of 12

generating at least one position input signal with the at least one sensor including a position sensor positioned with respect to the second translator, the at least one position input signal including an engaged-disengaged input signal to the controller representative of the first position and the second position.

35. (Previously Presented) The method of claim 34 further comprising the step of:

generating the at least one position input signal with the position sensor positioned with respect to the frame and the moveable member, the at least one position input signal including an ajar input signal to the controller representative of a moveable-member-ajar condition.

36. (Currently Amended) A method for controlling movement comprising the steps of:

moving a moveable closure along a fixed non-linear path of travel between first and second end limits of movement to open and close a portal through a barrier in response to activation of a reversible electric motor;

selectively driving the moveable closure in a first direction and in a second direction opposite from the first direction along the fixed path of travel with the reversible electric motor;

generating at least one input signal corresponding to motion of the moveable closure along the fixed path of travel with at least one sensor positioned on a clutch located between the reversible electric motor and the moveable member closure; and

selectively actuating the motor in accordance with a control program for controlling movement of the moveable member closure in response to the at least one input signal.

37. (Previously Presented) The method of claim 36 further comprising the steps of:

sensing movement of the clutch when the moveable closure moves along the fixed path with a sensor mounted to a portion of the clutch positioned between the motor and the moveable closure; and

controlling the moveable closure while moving between the first end limit of movement and the second end limit of movement in response to the sensor

Application Serial No. 09/832,678
Date May 24, 2004
Reply to Office Action dated March 23, 2004

Page 7 of 12

mounted to the portion of the clutch positioned between the motor and the moveable closure.

38. (Previously Presented) The method of claim 36 further comprising the steps of:

sensing movement of the clutch when the moveable closure moves along the fixed path with the at least one sensor mounted to a portion of the clutch positioned between the motor and the moveable closure; and

detecting an obstruction along the fixed path of the moveable closure while the moveable closure is moving between the first end limit of movement and the second end limit of movement in response to the at least one sensor connected to the portion of the clutch positioned between the motor and the moveable closure.

39. (Previously Presented) The apparatus of claim 36 further comprising the steps of:

sensing an amount of current supplied to the motor and for generating a sensed current signal with the at least one sensor including a current sensor; and

controlling the moveable closure between a predetermined minimum speed and a predetermined maximum speed while moving between the first and second end limits of movement along the fixed path in response to the sensed current signal from the current sensor.

40. (Previously Presented) The method of claim 36 further comprising the steps of:

sensing an amount of current supplied to the motor with the at least one sensor including a current sensor;

generating a sensed current signal with the current sensor; and

detecting an obstruction in response to the sensed current signal from the current sensor.

41. (Previously Presented) The method of claim 36 further comprising the steps of:

sensing a parameter corresponding to an actual position of the moveable closure anywhere along the fixed path with the at least one sensor including a position sensor; and

Application Serial No. 09/832,678
Date May 24, 2004
Reply to Office Action dated March 23, 2004

Page 8 of 12

generating an input signal representative of an actual position of the moveable closure along the fixed path as the moveable closure is moved between the first and second end limits of movement.

42. (Currently Amended) A method for controlling movement comprising the steps of:

moving a moveable member along a fixed path of travel between first and second end limits of movement in response to activation of first driving means for driving the moveable member;

selectively driving the moveable member in a first direction and in a second direction opposite from the first direction along the fixed path of travel with the first driving means being responsive to control means for selectively actuating the first driving means, the first driving means including a reversible electric motor and a clutch positioned between the reversible electric motor and the moveable member;

generating at least one input signal corresponding to motion of the moveable member along the fixed path of travel with at least one a sensor positioned between the first driving means and the moveable member, the at least one sensor including a sensor mounted to a portion of the clutch for sensing movement of the clutch when the moveable member moves along the fixed path; and

selectively actuating the first driving means in accordance with a control program with control means responsive to the at least one input signal, the control means for controlling the moveable member while moving between a first position and a second position along the fixed path in response to the sensor mounted to the portion of the clutch positioned between the reversible electric motor and the moveable member.

43. (Previously Presented) The method of claim 42 further comprising the step of:

detecting an obstruction along the fixed path of the moveable member while the moveable member is moving between a first position and a second position in response to the sensor connected to the portion of the clutch positioned between the reversible electric motor and the moveable member with the control means.

44. (Currently Amended) The method of claim 42 further comprising the steps of:

Application Serial No. 09/832,678
Date May 24, 2004

Reply to Office Action dated March 23, 2004

Page 9 of 12

moving a striker between a first position and a second position in response to actuation of second driving means in response to the control means, the striker operably engagable with the moveable member when the moveable member is in proximity with the first end limit of movement along the fixed path;

selectively driving the striker between the first position to engage the moveable member with a frame and the second position where the moveable member is disengaged with respect to the frame with second driving means being responsive to the control means; and

generating at least one position input signal, the at least one position input signal including an engaged-disengaged input signal to the control means representative of the first position and the second position with the at least one sensor including a position sensor located with respect to the second driving means.

45. (Previously Presented) The method of claim 44 further comprising the step of:

generating the at least one position input signal, the at least one position input signal including an ajar input signal to the control means representative of a moveable-member ajar condition with the position sensor located with respect to the frame and the moveable member.

46. (Previously Presented) The method of claim 42 further comprising the step of:

detecting an obstruction along the fixed path of the moveable member with the control means while the moveable member is moving between the first end limit of movement and the second end limit of movement in response to the sensor connected to the portion of the clutch positioned between the motor and the moveable member.

47. (Previously Presented) The method of claim 42 further comprising the steps of:

sensing a parameter corresponding to an actual position of the moveable member anywhere along the fixed path with the sensor connected to a portion of the clutch; and

generating an input signal to the control means representative of an actual position of the moveable member along the fixed path as the moveable member

Application Serial No. 09/832,678
Date May 24, 2004
Reply to Office Action dated March 23, 2004

Page 10 of 12

48. (Currently Amended) The method of claim 42 further comprising the steps of:

sensing an amount of current supplied to the motor and generating a sensed current signal with the at least one sensor including a current sensor; and

controlling movement of the moveable member between the first and second end limits of movement along the fixed path with the control means being responsive to the sensed current signal from the current sensor.

49. (Previously Presented) The method of claim 42 wherein the controlling step further comprises the steps of:

receiving the at least one input signal with a central processing unit; and generating at least one output signal in accordance with the control program with the central processing unit.